

## Message Text

PAGE 01 STATE 037870  
ORIGIN COME-00

INFO OCT-01 EUR-12 ISO-00 OES-07 ABF-01 CEQ-01 FSE-00  
/022 R

DRAFTED BY COM/NBS H;S. PEISER  
APPROVED BY OES/APT /SEP:RGMORRIS  
OES/APT/SEP:WDECLERCQ  
A/BF/FC:RWHITENER  
EUR/EE:GBOUTIN (INFO)  
-----008025 140022Z /15

P 132310Z PEB 78  
FM SECSTATE WASHDC  
TO AMEMBASSY WARSAW PRIORITY

UNCLAS STATE 037870

E.O. 11652: N/A

TAGS: TPHY,OSCI,PL

SUBJECT: NBS/SFCP - NEW RESEARCH PROPOSAL

REF; (REF. A) WARSAW A168 DATED APRIL 1, 1977, (REF. B)  
STATE 156813 DATED JULY 6, 1977

1) TO CLARIFY THE NATURE OF THE PROPOSAL CONCERNED WITH  
FIELD EMISSION RESEARCH IN AN ENERGY-RELATED FIELD: SUR-  
FACE DIFFUSION OF CATALYTIC POISON SUBSTANCES BY PROF.  
MECLEWSKI OF THE UNIVERSITY OF WROCLAW, THE NATIONAL  
BUREAU OF STANDARDS POINTS OUT THAT ESSENTIALLY THIS NEW  
PROJECT IS AN EXTENSION OF THE FORMER PROJECT, SUPPORTED  
BY SFCP FUNDS FROM 1973-1975 AND M. SKLODOWSKA-CURIE  
FOUNDATION IN 1976. THE AREAS OF SIMILARITY BETWEEN THE  
PRESENT PROPOSAL AND THE FORMER PROJECT INCLUDE THE  
FOLLOWING:

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PAGE 02 STATE 037870

(A) THE EXPERIMENTAL METHOD INVOLVES THE USE OF FIELD  
ELECTRON EMISSION MICROSCOPY, AND IS THE SAME IN BOTH  
CASES.

(B) ULTRAHIGH VACUUM TECHNIQUES, AND ACCURATE MEASUREMENTS  
OF HIGH VOLTAGES AND SMALL ELECTRIC CURRENTS ARE ESSENTIAL  
TO THE TECHNOLOGY OF BOTH PROJECTS.

""

(C) A MAJOR OBJECTIVE OF BOTH INVESTIGATIONS IS THE MEASUREMENT OF SURFACE DIFFUSION CHARACTERISTICS OF ADSORBED LAYERS ON A METAL SUBSTRATE. IN THE FORMER PROJECT, THE DIFFUSION MEASUREMENTS (POTASSIUM ON REFRACTORY METALS) RELATED TO A BASIC UNDERSTANDING OF EPITAXIAL CRYSTAL GROWTH; IN THE PRESENT PROPOSAL, THE DIFFUSION MEASUREMENTS (SULFUR ON NICKEL) ARE RELATED TO THE MECHANISM OF CATALYST POISONING.

(D) THE MAJOR DIFFERENCE BETWEEN THE PROJECTS IS THE FACT THAT THE PRESENT PROPOSAL HAS A MORE APPLIED THRUST THAN THE FORMER PROJECT. THE PRESENT PROPOSAL IS CONCERNED WITH UNDERSTANDING THE DYNAMICS OF SULFUR POISONING OF NICKEL CATALYSTS, A SERIOUS TECHNOLOGICAL PROBLEM IN THE CONVERSION OF COAL TO SYNTHETIC NATURAL GAS.

(2) IT IS OUR OPINION THAT THE PROPOSED MEASUREMENTS ARE UNCLASSIFIED

PAGE 03 STATE 037870

TIMELY AND SIGNIFICANT, AND WE ENCOURAGE SUPPORT OF THIS PROJECT BY GOP FUND ALLOCATION.

(3) TRAVEL COSTS WILL BE CONSIDERED AS SOON AS GUIDELINES MUTUALLY AGREEABLE TO U.S. AND POLISH JOINT BOARD MEMBERS ARE DEVELOPED. -

(4) AS NO FURTHER RESPONSE TO REF. B HAS BEEN RECEIVED, NBS REQUESTS NOTIFICATION OF DECISION. VANCE

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<< END OF DOCUMENT >>

## Message Attributes

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**Review Markings:**  
Sheryl P. Walter  
Declassified/Released  
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